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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|-----------------|-------------|----------------------|---------------------|------------------|
| 10/614,820 | 07/09/2003 | Eiji Inada | 023971-0289 | 8114 |

22428 7590 08/25/2004

FOLEY AND LARDNER
SUITE 500
3000 K STREET NW
WASHINGTON, DC 20007

EXAMINER

LE, DAVID D

| ART UNIT | PAPER NUMBER |
|----------|--------------|
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3681

DATE MAILED: 08/25/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/614,820

Applicant(s)

INADA, EIJI

Examiner

David D. Le

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 09 July 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-20 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 09 July 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
- 1) ☒ Certified copies of the priority documents have been received.
 - 2) ☐ Certified copies of the priority documents have been received in Application No. _____.
 - 3) ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date 07/09/03.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

1. This is the first Office action on the merits of Application No. 10/614,820, filed on 09 July 2003. Claims 1-20 are pending.

Documents

2. The following documents have been received and filed as part of the patent application:

- Information Disclosure Statement, received on 07/09/03
- Foreign Priority Document, received on 07/09/03

Claim Rejections - 35 USC § 102

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

4. **Claims 1-11 and 13-20 are rejected under 35 U.S.C. 102(b) as being anticipated by U. S. Patent No. 6,223,842 to Masaki.**

Claims 1-11 and 13-20:

Masaki (Figs. 1-4; column 2, line 25 – column 7, line 31) discloses a hybrid vehicle comprising:

- A clutch rate adjustable clutch (5);
- An engine (1);
- A generator (3);

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- A motor (6);
- A controller (8) for controlling a vehicular propelling torque transmitted to the driven wheels under a predetermined torque distribution condition, the controller including: a power supplying section (Fig. 1, being battery 4) that makes the motor perform a power running by supplying a generated electric power obtained as a result of a drive of the generator by the engine to the motor; and a torque distribution section that distributes an engine torque into a clutch transmission torque transmitted to the driven wheels via the clutch and a generation torque transmitted to the generator, the torque distribution section controlling the clutch rate of the clutch and the generation torque of the generator on the basis of at least a vehicular velocity (Figs.2-4, column 2, line 46 – column 7, line 31);
- Wherein the torque distribution section controls the clutch rate of the clutch and generation torque of the generator in such a manner as to maximize a vehicular propelling torque (i.e., column 6, line 59 – column 7, line 13);
- Wherein a torque distribution ratio of the generation torque with respect to the engine torque is corrected in accordance with an output enabling power of the battery (column 3, line 35 – column 4, line 43);
- Wherein the predetermined torque distribution condition includes a condition under which the vehicle is started or the vehicle is running at a predetermined low vehicular velocity (Fig. 2, column 3, lines 5-18);

- Wherein the torque distribution ratio of the generation torque with respect to the engine torque is corrected in accordance with a magnitude of a heat of the clutch (column 7, lines 22-31);
- Wherein, the ratio of the distribution of engine torque to the generation torque of the generator is 0 % and the clutch rate of the clutch is 100 % to completely clutch the clutch, if an output power of the battery is equal to or larger than a predetermined power value (column 4, line 9 – column 5, line 20);
- Wherein a sum of the clutch transmission torque and an output torque of the motor is the vehicular propelling torque (column 4, lines 9-14);
- Wherein the clutch comprises a frictional clutch (column 6, lines 48-51);
- Wherein a ratio of the distribution of the engine torque to the generator becomes reduced as the vehicular velocity becomes increased (column 4, lines 9-27);
- Wherein, as a temperature of the clutch becomes higher, a ratio of the distribution of the engine torque to the clutch transmission torque becomes reduced (column 7, lines 22-31); and
- Wherein the clutch transmission torque zeroed if the temperature of the clutch is in excess of a predetermined temperature value (column 6, line 59 – column 7, line 13).

5. Claims 1-5, 11-14, and 19-20 are rejected under 35 U.S.C. 102(b) as being anticipated by U. S. Patent No. 6,026,921 to Aoyama et al.

Claims 1-5, 11-14, and 19-20:

Aoyama (Figs. 1-4; column 4, line 41 – column 8, line 17) discloses a hybrid vehicle comprising:

- A clutch rate adjustable clutch (element 3 and column 5, lines 48-51);
- An engine (2);
- A generator (1);
- A motor (4);
- A controller (16) for controlling a vehicular propelling torque transmitted to the driven wheels under a predetermined torque distribution condition, the controller including: a power supplying section (Fig. 1, being battery 15) that makes the motor perform a power running by supplying a generated electric power obtained as a result of a drive of the generator by the engine to the motor; and a torque distribution section that distributes an engine torque into a clutch transmission torque transmitted to the driven wheels via the clutch and a generation torque transmitted to the generator, the torque distribution section controlling the clutch rate of the clutch and the generation torque of the generator on the basis of at least a vehicular velocity (column 6, line 10 – column 7, line 25);

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- Wherein the torque distribution section controls the clutch rate of the clutch and generation torque of the generator in such a manner as to maximize a vehicular propelling torque (column 6, line 10 – column 7, line 25);
- Wherein a torque distribution ratio of the generation torque with respect to the engine torque is corrected in accordance with an output enabling power of the battery (column 6, line 10 – column 7, line 25);
- Wherein the predetermined torque distribution condition includes a condition under which the vehicle is started or the vehicle is running at a predetermined low vehicular velocity (column 6, lines 10-42);
- Wherein a sum of the clutch transmission torque and an output torque of the motor is the vehicular propelling torque (column 4, lines 57-67);
- Wherein the generator and the motor constitute a three-phase alternating current motor/generator (column 5, lines 25-32); and
- Wherein the clutch comprises a frictional clutch (column 5, lines 48-51).

Conclusion

6. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

- Boll (U. S. Patent Application No. US 2003/0153429) teaches a motor vehicle drive as shown in Fig. 1.

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- Abe et al. (U. S. Patent No. 6,721,637) teaches a hybrid vehicle as shown in Fig. 1.
- Sugano (U. S. Patent No. 6,679,796) teaches a transmission unit for hybrid vehicle as shown in Fig.1.
- Suzuki et al. (U. S. Patent No. 6,625,534) teaches a control apparatus and a control method for a power train as shown in Fig.2.
- Takahara et al. (U. S. Patent No. 6,064,161) teaches a vehicle drive device and a vehicle drive device control method as shown in Figs. 1-2.
- Kawabata et al. (U. S. Patent No. 6,520,879) teaches a power train apparatus, as shown in Fig. 1, wherein the assist motor 40 is a three-phase alternating current type.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to David D. Le whose telephone number is 703-305-3690. The examiner can normally be reached on Mon-Fri (0700-1530).


If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Charles A Marmor can be reached on 703-308-0830. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



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CHARLES A. MARMOR
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